Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (cancelled)

2. (cancelled)

3. (currently amended) A fuse detection circuit, comprising:

a fuse bridge circuit in which a first arm of the fuse bridge circuit has a fuse under detection, for producing a first voltage in the first arm in response to a read signal pulse;

a second arm of the fuse bridge circuit having a reference fuse, for producing a second voltage in the second arm in response to the read signal pulse, said first and second arms each having detection elements;

a sensing circuit for sensing the first voltage and the second voltage as status value data;

a latch circuit keeping the data in the sensing circuit; and

a timing control circuit to turn off the fuse bridge circuit after the latch circuit has been activated ~~The circuit as in claim 1~~ wherein, the detection elements of the first arm and the second arm have different resistances~~, while the fuse under detection and the reference fuse have the same resistance prior to programming or burning the fuse under detection~~.

4. (cancelled)

5. (currently amended) A fuse detection circuit, comprising:

a fuse bridge circuit in which a first arm of the fuse bridge circuit has a fuse under detection, for producing a first voltage in the first arm in response to a read signal pulse;

a second arm of the fuse bridge circuit having a reference fuse, for producing a second voltage in the second arm in response to the read signal pulse;

a sensing circuit for sensing the first voltage and the second voltage as status value data;

a latch circuit keeping the data in the sensing circuit; and

a timing control circuit to turn off the fuse bridge circuit after the latch circuit has been activated, ~~The circuit as in claim 1~~ wherein, the timing control circuit has a first NAND gate receiving a first current pulse and a second current pulse as inputs, and a second NAND gate receiving an output of the first NAND gate and the read signal pulse as inputs, and an output of the second NAND gate delaying turn off the bridge circuit current until after the latch circuit has been activated.

6. (original) The circuit as in claim 5 wherein, a transition of the second current pulse turns off the timing control circuit.

7. (original) The circuit as in claim 5 wherein, the latch circuit extends the duration of the second current pulse relative to the duration of the read signal pulse.

8. (currently amended) The circuit as in claim ~~1~~ 3 wherein, the first arm and the second arm have respective transistors of different multiples of a gate width to gate length ratio, to adjust a burned state detection threshold for the fuse under detection.

9. (currently amended) The circuit as in claim ~~1~~ 3 wherein, ~~the first arm and the second arm have different resistances~~ the fuse under detection and the reference fuse have the same resistance prior to programming or burning the fuse under detection.

10. (currently amended) The circuit as in claim ~~1~~ 3 wherein, ~~the first arm and the second arm have different resistances, and~~ said different resistances are proportioned relative to one another to adjust ~~sensitivity to a status of~~ a burned-state detection threshold for the fuse under detection.

11. (currently amended) A method for detecting a status of a burnable or programmable fuse, comprising the steps of:

detecting a differential voltage in response to a read signal to a fuse bridge circuit in which a first arm of the fuse bridge circuit has a fuse under detection, and a second arm of the fuse bridge circuit has a reference fuse,

setting the resistance of said first arm and said second arm to be different values in order to establish a burned-state detection threshold,

sensing and storing the differential voltage as status value data;

latching the data; and

turning off the fuse bridge circuit independent of read signal decay.

12. (canceled)

13. (original) The method of claim 11, further comprising the step of:

turning off the fuse bridge circuit by a timing control circuit in a feedback circuit with the fuse bridge circuit.

14. (original) The method of claim 11, further comprising the step of:

keeping the status value data in a circuit that senses the differential voltage.

15. (original) The method of claim 11, further comprising the step of:

switching the bridge circuit to a nonoutput state after latching the data.

16. (original) The method of claim 11, and further comprising the steps of:

delaying turn off of the differential voltage by a timing circuit; and

switching the bridge circuit to a nonoutput state after latching the data.

17. (cancelled)

18. (original) The method of claim 16, further comprising the step of:

turning off the fuse bridge circuit by a timing control circuit in a feedback circuit with the fuse bridge circuit.

19. (original) The method of claim 16, further comprising the step of:

keeping the status value data in a circuit that senses the differential voltage.

20. (cancelled)